

## PORT OF SURVEY FOR REPAIRS, &amp;c., OF ENGINES AND BOILERS

(Received at London Office)

13 JAN 1947

Survey Report... 11/1/1947 When handed in at Local Office... 11/1/1947 Port of Belfast  
 Survey held at Belfast Date First Survey 27th August Last Survey 30th December 1946  
 (No. of Visits... 30)

on the Machinery of the Wood, Iron or Steel M.V. Capetown Castle Year. Month.  
 Gross 27002 Vessel built at Belfast By whom Harland & Wolff Ltd. When 1938 11  
 Net 16454 Engines made at Belfast By whom Harland & Wolff Ltd. When 1938  
4650 Boilers, when made (Main) (Donkey) 1938  
 Owners Union-Castle Mail S'Co Ltd. Owners' Address (if not already recorded in Appendix to Register Book.)  
 Managers Port London Voyage  
 If Surveyed Afloat or in Dry Dock Both  
 (State name of Dock.) Thompson's Dry Dock

Particulars of Classification which must be inserted precisely as in Register Book & Supplements).

CHARACTER.	Years assigned expired	Machinery and Boiler Surveys (including date of N.B., if any)
* for Special Survey.		
Date of last Survey and of Periodical Surveys.		
<u>+ 100 A1</u>		<u>+ LMC 4.38.</u>
<u>with Preboard.</u>		<u>DBS 4.45.</u>
<u>6.45.</u>		<u>TS. G. 6.45.</u>
<u>Examined 12.45.</u>		

ars of Examination and Repairs (if any) DRG LMC TS Part DBS  
 Surveys, when held, must be reported in detail and serially in the terms of the Rules. State clearly the cause of Repairs, if any, all, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly stated at the end of the report. State also the dates and initials of any letters respecting this case.

cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined.  
 age report made by anyone else? If so, by whom?  
 Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time?

Donkey " " " Cochrane boilers only  
 te for what reasons.  
 What parts of the Boilers could not be thus thoroughly examined?

Special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler?  
 Date of internal examination of each boiler 13th November Cochrane boilers only  
 Present condition of funnel(s) Good

Surveyor examine the Safety Valves of the Main Boilers? To what pressure were they afterwards adjusted under steam?  
 Surveyor examine the Safety Valves of the Donkey Boilers? To what pressure were they afterwards adjusted under steam? 100 lb.  
 Surveyor examine all the manholes, doors and their fastenings of the Main Boilers?  
 Surveyor examine the drain plugs of the Main Boilers?  
 Surveyor examine all the mountings of the Main Boilers?  
 Screw shaft now been drawn and examined? Yes Has it a continuous liner? Yes Is an approved oil retaining appliance fitted at the after end?  
 Has the shaft now fitted been previously used? Yes Has it a continuous liner? Yes  
 Date of examination of Screw Shaft PORT 26.11.46 State the wear down in the shaft YES

Insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? YES  
 Survey is not complete, state what arrangements have been made for its completion and what remains to be done. Complete

Examined the Port and Star Tail shafts, propellers, all sea cocks and valves together with their fastenings and examined the pumping arrangements.  
Examined the Port & Star M.E. units Nos 1-10 inclusive viz Top & bottom Covers, pistons and rods, and Exhaust pistons & rods, valves & valve gear, Connecting rods and their top and bottom end brasses, crossheads, guides, pumps, reversing gear, Crank pin and intermediate shafting and Cam shafts, also Scavenge air blowers.  
Examined the Star after air compressor over all parts and the intercoolers under high pressure 125 & 150 lb. also the Emergency Compressor and coils.  
Examined the oil service tanks with their fittings and connections.  
Examined the following pumps over all parts: The bilge & ballast, Port & Star bilge, and the bilge pump and fire, Port and Star inboard and outboard S.W. Circ pumps in main engine room and Star inboard and outboard S.W. Circ pumps in Aux engine room (total 6), the Port and Star F.W. Circ pumps in Aux engine room also the 2 Domestic F.W. pumps (P.T.O.)

General Observations, Opinion, and Recommendation:  
 (State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and also any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, BS 9.11, B&MS 9.11, LMC 9.11 or LMC 140 lb., FD, &c.)  
The machinery of this vessel is in safe

Working Condition and eligible in my opinion to remain as classed with  
records of Port & Star Tail shafts seen 11.46 and + LMC CS with date  
also DBS with date when the safety valves of the waste heat boilers have been adjusted under steam  
License Case

Fee (per Section 29) £ 25 : : Fees applied for 11/1/1947  
 Damage or Repair Fee (if any) £ 7 : : Received by me, 19  
 SURVEY FEE £ 15 : :  
 Other expenses (if chargeable)

Signature of Surveyor: R. B. Macneil  
 Engineer Surveyor to Lloyd's Register of Shipping.  
 Date: WED. 12 FEB 1947  
+ LMC CS 12.46  
Both S. 11.46  
12.46

CERTIFICATE WRITTEN  
 015348 - 015354 - 00351/2



- Old No 6 unit. New piston rod sleeve and stuffing box fitted.  
 - No 7 - Piston rod modified and new nuts fitted, new piston rod sleeve fitted.  
 - No 8 - New top and bottom main and top and bottom Exhaust liners fitted, Existing piston rod modified and new sleeve & stuffing box fitted.  
 - No 9 - Top main and top & bottom Exhaust liners renewed, new piston rod fitted.  
 - No 10 - New top & bottom main and top & bottom Exhaust liners fitted Existing piston rod modified and new nuts fitted.

A number of Port & Starboard Engine Crosshead & Crankpin 'brasses' remetalled and repaired by patching white metal.

All main engine Scavenge Air blowers opened up & cleaned, impellers drawn from shafts and access holes cut in blower casings. Impeller Sealing Rings remetalled and machined.

Bilge & Ballast pumps. Impeller shaft machined & sleeved & new sealing rings fitted.

Bilge Ballast & Fire pump. Spare impeller fitted also new rings.

Old inboard S.W. Air pump (Aux Eng room) Air Extractor Reconditioned, Sea Suction Valve cover renewed.

Old Outboard S.W. Air pump (Aux Eng room) Air Extractor Reconditioned.

Domestic F.W. pumps. Impellers & Spindles removed & reconditioned, Air Extractor valves skimmed up & repaired.

Port & Starboard inboard main lub oil pumps. New fuel pump pins fitted - Air pump piston

No 3 Generator. Centre. New Governor fitted.

No 4 Generator Engine. (Old) inboard. All liners drawn, 4 fuel pump blocks ground, pins built up & ground to suit. No 2 piston body renewed. Inner pedestal bearing top & bottom half 'brasses' remetalled.

(SBD OUTBOARD)  
 No 5 Generator Engine. All cylinder liners drawn, fuel pump blocks renewed, pins built up & ground to suit. No 5 Connecting rod bottom end 'brasses' remetalled.

Emergency Air Compressor. Valve Spindles repaired.

Port propeller blade repaired - built up.

Spare piston rod modified.

Aux Eng room well suction pipe renewed.

Bracing removed from Sea Valves & Cocks.

3 Spare main piston rod stuffing boxes reconditioned.

Main and Aux engine piston rings renewed as found necessary.

Tunnel well bilge suction valve cover renewed.

Domestic & S.W. Air Suction line Cross Connecting valve renewed.

S.W. master valve to Air Compressor renewed.

Inboard domestic pump suction valve Chest Cover & Spindle renewed.

All extended spindles to bilge, fuel tanks, settling, bunkers etc tested & worked.



And the Port & Star inboard and outboard main lub oil pumps (4) And the Port and Star aux lub oil pumps (2) both feed pumps, P & S FW & the main & aux lub oil Coolers examined & tested. Examined Nos 4 & 5 Generator engines over all parts including blowers examined both Cochranes Donkey boilers externally and internally together with their mountings adjusted their safety valves under steam as stated above and examined the oil fuel installation under working conditions. 2 Steam pipes above 3" removed to works & tested, others examined internally & found in satisfactory condition. Examined the machinery under working conditions on sea trial and found same satisfactory.

## Repairs.

- All main units lifted out and frame landings examined
- Port No 1 unit. Bottom Exhaust liner renewed and new piston rod fitted.
- No 2 - Top & bottom main liners renewed, top Exhaust liner renewed Existing piston rod modified (grinding thread) and new nuts fitted and new piston rod sleeve & stuffing box fitted.
- No 3 - Top and bottom main liners and top Exhaust liner renewed Existing piston rod modified and new nuts fitted.
- No 4 - Top and bottom main and Exhaust liners renewed, Existing piston rod modified and new nuts fitted & new piston rod sleeve fitted.
- No 5 - Top and bottom main and top Exhaust liners renewed, piston rod modified and new nuts fitted also piston rod sleeve and stuffing box renewed.
- No 6 - Top main and Exhaust liners renewed, top Cover repaired and new piston rod fitted.
- No 7 - Top main and Exhaust liners renewed & new piston rod fitted.
- No 8 - Bottom Exhaust liner renewed, Existing piston rod modified and new nuts fitted, piston rod sleeve renewed and bottom Cover repaired.
- No 9. New top & bottom and top Exhaust liners renewed, top Cover renewed, Existing piston rod modified & new nuts fitted.
- No 10. New top and bottom and top Exhaust liners fitted, top & bottom cylinder covers repaired, piston rod modified and new nuts fitted, & new piston rod sleeve & stuffing box fitted.

- Star No 1 unit. Existing piston rod modified and new nuts fitted
- No 2 - Top main and Exhaust liners renewed, Existing piston rod modified and new nuts fitted.
- No 3 - New top and bottom main and <sup>top</sup> Exhaust liners fitted and bottom Exhaust piston renewed, Existing piston rod modified and new nuts fitted.
- No 4 - New top and bottom main and top & bottom Exhaust liners fitted, new piston rod, sleeve, and stuffing box fitted. Bottom cylinder cover repaired.
- No 5 - New top & bottom main and top and bottom Exhaust liners fitted & new piston rod fitted.
- No 6 - New top and bottom main and top & bottom Exhaust liners fitted, bottom cover repaired, Existing piston rod modified & new nuts fitted.



No opportunity has afforded to adjust the safety valves of the Waste heat boilers.  
Main engine liners renewed owing to wear & piston rods on account of defective threads.

### ELECTRICAL EQUIPMENT

Now Done:- Installation examined under working conditions. Generators, motors, cables, fittings on main switchboard, aux switchboards, and distribution boxes examined. Insulation tests made. All found satisfactory.

Repairs Effected:- Armatures for the four main engines blown out and motors for the following services sent ashore and overhauled:-

Two main S.W. Circ. pumps, Port outboard and Starboard inboard main lub oil pumps, two hot salt water pumps, two aux lub oil pumps, two aux salt water circulating pumps, two aux fresh water circulating pumps, two sanitary pumps, two oil vapour extraction fans, eight watertight door motors. Wiring and fittings in public rooms and accommodation overhauled, made good or renewed where necessary. Other minor repairs effected.  
R.L.H.